REMARKS

Claims 1-6 and 15-17 are presented for consideration. Claims 1 and 15 are independent.

Claims 1-6 and 15-17 stand rejected under 35 U.S.C. § 103(a) as allegedly being obvious over Robar et al. (U.S. 6,826,313) in view of Yoshida (U.S. 6,178,005) and Dow et al. (U.S. 6,784,904) and further in view of Parulski et al. (U.S. 5,414,811).

This rejection is respectfully traversed.

Robar et al. relates to a method and automated system for creating volumetric data sets. A plurality of films 12 are exposed to a radiation field 17. The films 12 are held at known positions during exposure so that the measured dose distribution can be coregistered with the intended dose distribution. (Robar et al., col. 5, lines 45-49). The films 12 may be processed to provide a series of two-dimensional images representing the integrated dose provided in different planes through the dose distribution being studied. (*Id.* at col. 4, lines 50-53). The optical density of these images has a spatial distribution which is related to the dose delivered by a calibration function. Figure 3 of Robar et al. is an example of a calibration curve 30. The equation shown in Figure 3, when inverted, allows for direct conversion of pixel value to dose.

After having been imaged, the films 12 are digitized by being scanned. Software in the computer 22 analyzes the digitized images. If one or more of the scanned images contains images of more than one film 12 then the individual images are extracted. After extraction, the individual images are separately processed and stored in a separate block of memory or filed. (*Id.* at col. 6, lines 8-29). While Robar et al. states that "FIG. 6 shows a single scanned image which includes images of four films 12 from one set of films," there is no disclosure that this image is displayed.

Once digitized the measured density of each pixel, or selected pixels or regions, of the digitized image is converted to an integrated radiation dose using the calibration function discussed above. The dose data is then entered into the cells of a three-dimensional data structure. Preferably, each cell of the data structure contains a number which represents the integrated dose measured in small volume surrounding a point in space. Not all cells of the data structure necessarily correspond to points which are imaged on one of the films 12. Many parts of the three dimensional distribution are in between adjacent films 12. Data from additional sets of film may be used to fill out the data structure. Any remaining cells in the array can then be populated by interpolation based upon the values in adjoining cells. (*Id.* at col. 7, lines 17-52).

After the above steps, the three-dimensional data structure can then be displayed on a suitable monitor. Preferably the system allows the user to export a record of the entire spatial dose distribution as a series of DICOM images, where each DICOM image represents a slice of user-defined thickness through the measured dose volume, and the separation between slices is also defined by the user. (*Id.* at col. 7, lines 53-63).

The Office Action acknowledges, on page 8, that the combination of Robar et al. and Yoshida does not suggest that the image is displayed in a thumbnail format. To remedy the deficiencies of Robar et al. and Yoshida the Office Action introduces Dow et al. The Office Action contends, on page 8, that:

> *"Given the fact that displaying images in thumbnail format on a display is well known and* ***Robar****'s explicit requirement that film images be organized in a predetermined sequence (Col. 6, Rows 18-20), one of ordinary skill in the art would've modify the computer 22 of* ***Robar*** *to display thumbnail images in the*

predetermined sequence to take full advantage of the fact that thumbnails are advantageous in help a user to visually recognizing and organizing images on the monitor unit."

Applicant respectfully disagrees. The Office Action appears to contend that one of ordinary skill in the art would have created and displayed thumbnail images of the digitized films images in the prescribed sequence to help a user organize the images on the monitor unit. As discussed above, in Robar et al. the digitized images are delivered to a computer which separates, orients, and sequences the digitized images. Robar et al. notes that one of the advantages of having a computer process the digitized images is that it causes "the method to be insensitive to human error which might result in one or more images being placed out of sequence or in the wrong orientation." (Robar et al. col. 3, lines 28-37). Therefore, Robar et al. teaches away from a user organizing the images and, as a result, from the proffered rationale for combining Robar et al. and Dow et al.

Applicant also submits that one of ordinary skill in the art would consider a thumbnail image to be a two-dimensional image. The system of Robar et al. is for creating a three-dimensional dose distribution data from a plurality of two-dimensional images. Robar et al. states that the system permits a user to cause the software to export a record of the entire spatial dose distribution as a series of DICOM images, whereby each DICOM image represents a slice of user-defined thickness through the measured dose volume and the separation between slices is also defined by the user. (Robar et al., col. 7, lines 60-63). Thus, Robar et al. appears to suggest that the DICOM image has a certain thickness, that is, it is three-dimensional. However, Applicant submits that neither Robar et al. nor any of the applied references suggest the

desirability of displaying three-dimensional dose distribution data in a two-dimensional thumbnail format.

Therefore, at least for the reasons set forth above, Applicant submits that the proposed combination of Robar et al. and Dow et al. is improper. Accordingly, at least for the reasons discussed above, reconsideration and withdrawal of the outstanding rejection of Claims 1-6 and 15-17 under 35 U.S.C. § 103(a), based, in part, on the improper combination of Robar et al. and Dow et al., is respectfully requested.

Applicant submits that the present invention as set forth in the independent claims is patentable over the applied references. The dependent claims set forth additional features of the Applicant's invention. Independent consideration of the dependent claims is respectfully requested. Applicant submits that the present application is in condition for allowance and such action is respectfully requested.

Applicant's undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,

/Sean M. Walsh/

Sean M. Walsh
Attorney for Applicant
Registration No.: 63,510

FITZPATRICK, CELLA, HARPER & SCINTO
1290 Avenue of the Americas
New York, New York 10104-3800
Facsimile: (212) 218-2200
SMW:ayr

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